

V CONFERENCE OF ODOURS AND VOCs IN THE ENVIRONMENT  
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ABSTRACT

**MEASUREMENT OF ODOROUS COMPOUNDS WITH A DEVICE BASED ON  
SPRi TECHNOLOGY**

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A device developed by Aryballe Technologies (Grenoble – France) and based on Surface Plasmon Resonance (SPR) imaging was used to measure odorous compounds. This technology was proposed as alternative to classical sensor arrays or e-noses and was tested in a large research and development project called WISE (Wellness & medical diagnostics olfactory SEnsors).

Like all sensors or e-noses, the device is more designed for air quality monitoring in stable atmospheres and needs developments for environmental applications. But for odour characterization, the number of receptors inside the measurement cell allows a distinction capability that cannot be obtained with classical instruments. This capability is then a real progress for odour discrimination and then identification of sources. For example, it's easy to distinguish two compounds of the same chemical family and in some case cases, make the difference between isomers or even enantiomers. We could also imagine getting an idea of component proportion in simple mixtures of 2 or 3 compounds. So, the device offers a complementary approach of: chemical identification with GC/MS, potential odour with CG/MS-O and odour concentration measurement by olfactometry. With precise fingerprints that are obtained, it might be an efficient tool, in the next future, to detect abnormal air composition (odour change or variation of VOC composition). As all devices with sensors or receptors, the system must be trained for an application or must be used only if odours (odorous compounds) that are monitored are in the database of the equipment.

Indicate preference of kind of presentation

- Oral Communication

Indicate session in which authors propose to present their work:

- Session IV. Electronic devices for gases and odourant detection. Odourants and VOCs monitoring techniques.